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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KILKENNY, TODD J	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/989,159	Applicant(s) CHOU, LUNG WEN	
	Examiner Todd J. Kilkenny	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover she t with the correspondenc address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 21 November 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 – 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As currently written, it is entirely unclear what "becomes the finished synthetic leather" as claimed in claim 1 as it is unclear if the finished synthetic leather is comprised solely of the liquid mixed materials, or does it include the liquid mixed materials sandwiched between two basic cloths, or comprise the liquid mixed materials on a single basic cloth such that the winding device separates the sandwich into two basic clothes, each having portions of the liquid mixed materials thereon such that each reel (61 and 62 as diagrammed in Figure 1) comprises a finished synthetic layer. Therein, it is further unclear as to what the finished synthetic leather comprises as the specification fails to suggest what happens when the liquid mixed materials are compressed with the two basic cloths. Does compressing said liquid mixed materials between the two basic cloths impregnate the cloths to form a synthetic leather as a single web, after which is separated into two webs of synthetic leather at the winding

device? Or, does compressing the liquid layers provide a three layered web comprising two distinct outer basic cloth layers and an inner layer of liquid mixed materials, and if so are the liquid mixed materials bonded to the outer basic cloth layers? Or, are the two basic cloth webs merely release sheets which are used to protect the liquid mixed materials during compressing, but are later removed leaving only the compressed liquid mixing materials as the finished synthetic layer and if so, does the winding device remove only the top basic cloth leaving the compressed liquid mixed materials and the bottom basic cloth layer (again, if this is the case does the finished synthetic leather include this bottom basic cloth layer). That is, does merely compressing the liquid mixed materials, which appear to be polyurethane reactants, form applicant's "finished synthetic leather".

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 – 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, as addressed in the 112 first paragraph rejection above, it is entirely unclear what becomes the finished synthetic leather as claimed.

As to claim 1, step 2, it is unclear if "in case of need" as recited in line 13, is directed to the second step of foaming or the description of the third step. Furthermore,

it isn't entirely clear if "in case of need" suggests said step is optional. Applicant is asked to clarify.

In regard to claim 5, suggesting the already claimed "basic cloth" may be cloth is confusing. What does "basic cloth" define as recited in claims 1 – 4 if it isn't already a cloth? Furthermore, it is unclear what other materials would be included by "or the like".

Claim Objections

5. Claims 1 - 6 objected to because of the following informalities: Applicant is asked to carefully review the claims as currently written as there appears to be multiple verb tense, punctuation and preposition use errors. For example, the last lines of step three of claim 1 recite "...and letting the materials instantly reacting with each other to form liquid mixed materials and vertically flowing down;" Appropriate correction is required.

Specification

6. The disclosure is objected to because of the following informalities: Applicant is asked to review the entire specification for minor informalities, such as correcting "congealed" to –congeal-- on line 17 of page 1 and "collude" to – collide -- on line 6 of page 7.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1 and 4 - 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (US 3,959,049).

While it is unclear as to what applicant's claimed invention actually requires as is addressed in the 112 paragraph rejections above, it is the examiner's best judgment that applicant's invention is at the very least rendered obvious by Tanaka et al.

Tanaka et al teach a process for the production of artificial leather and in the background suggest downfalls of previously known dry and wet methods for preparation of artificial leathers, including the large quantities of organic solvents released in to the environment and the considerable equipment expenses needed for recovery (Col. 1, lines 40 – 51). The production process of Tanaka et al suggests to make artificial leather by incorporating a catalyst and a foam stabilizer into a polyurethane prepolymer formed by compounding a polyester diol with an organic polyisocyanate so that the [NCO]/[OH] ratio is within a range from 2.0 to 4.0 to form a substantially solvent-free polyurethane paint, thereafter coating said paint (5) on a release paper (3) and applying the release paper to a substrate (6), wherein said formed assembly is passed through upper and lower rolls (8 and 9), while the reaction of the polyurethane paint is

advancing (Col. 3, lines 8 – 63). Tanaka et al further disclose that the clearance between the two rolls is controlled, in accordance with the [NCO]/[OH] ratio. It appears Tanaka et al anticipate the limitations of applicant's claim 1, steps 1 – 4 and 6, but Tanaka et al fail to teach a vertical flowing control device positioned below the mixing and injecting head. However, in view of Tanaka et al suggesting the importance of passing the layered structure through two rollers (8 and 9), it would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the processing machinery in alternative configurations, including such that the mixing device dispenses the materials vertically downward between the rollers and only the expected results of Tanaka et al would be achieved. That is, it would have been within the purview of one of ordinary skill in the art to rearrange the orientation of the rollers so long as the dispensed polyurethane paint was sandwiched between the release paper and substrate and was undergoing its reaction as is required by Tanaka et al and only the expected artificial leather would be formed. Furthermore, in view of Tanaka et al stressing the importance of passing the assembly through the rollers while the polyurethane paint is reacting, one of ordinary skill in the art would have been motivated to provide said roller compression immediately to ensure compressing at the reacting stage.

The limitations of dependent claims 4 – 6 are believed to be further suggested by Tanaka et al, including the foaming agent, web material and control over the gap distance between the two rollers.

9. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (US 3,959,049) in view of Cartmill et al (US 6,228,296).

Tanaka et al fail to positively suggest the liquid materials are fed through a plurality of feeders into said injecting and mixing device. However, such feeding is considered to be well known in combining reactive components for making polyurethane as evidenced for example by Cartmill et al (Figure 1). It therefore would have been obvious to one of ordinary skill in the art at the time of the invention to store the reactive components of Tanaka et al in separate tanks and feed said reactive components to the mixing and dispensing head of Tanaka et al through separate feed lines as is known as evidenced by Cartmill et al in order to better control the amount and time when each component is added to the mixture, wherein said feeding of Cartmill et al is powered through pumps.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 3,939,021 to Nishibayashi et al teach a process for producing artificial leather by applying a urethane prepolymer containing terminal isocyanate groups, an amine catalyst and a foam stabilizer onto a releasing carrier sheet, subjecting the prepolymer to moisture-containing gas under controlled conditions and thereafter laminating the coating layer onto a backing material and stripping off the releasing carrier sheet. It appears Nishibayashi et al suggest the use of solvents is merely optional and suggest

that said prepolymer is mixed by any conventional means, wherein a one-shot mixer is most preferable and applying the mixed prepolymer onto the carrier sheet by conventional means and wherein the adhesion to the backing material may be carried out by conventional means, such as a nip roll (Abstract, Col. 2, line 64 – Col. 3, line 51; Col. 5, lines 44 - 63).

US 3,933,548 to Anderson teaches the a production process for urethane foams which includes injecting mixed polyurethane reactants (held in two chamber holding tank (26) onto a carrier web via a mixing head (28). A support material (33) is laid on top of the polyurethane foam which is then passed through nip rollers (35 and 34) to form a laminate to be used as artificial leather (Example 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Todd J. Kilkenny** whose telephone number is **(703) 305-6386**. The examiner can normally be reached on Mon - Fri (9 - 5).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

TJK

JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300

TJK